

Notice of Allowability

Application No.

10/017,535

Applicant(s)

ZHANG ET AL.

Examiner

Art Unit

Tessfaldet Bocure

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/21/05.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 12 December 2001 and 21 March 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 3/21/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The claimed subject matter in claims 1-11 is allowable because the arts of record fail to teach or fairly suggest the claimed "a method for communicating a bit stream using turbo coding comprising:

encoding each input bit in the bit stream using a single 1/3-rate turbo encoder to produce a set of three bits for each input bit;

repeating one of the three bits in each set to produce a set of four bits for each input bit;

increasing a time interval between the four bits in the set before transmitting the set of four bits on a communications channel;

decreasing the time interval between the set of four bits received via the to communications Channel;

diversity combining the received set of four bits into a received set of three bits; and

decoding each received set of three bits using a 1/3 rate turbo decoder to

recover an output bit for each input bit as in claim 1 and a system for communicating a bit stream using turbo coding comprising:

a transmitter further comprising a single 1/3-rate turbo encoder configured to

encode each input bit in the bit stream using to produce a set of three bits, a bit

repeater configured to repeat one of the three bits in each set to produce a set of

four bits for each input bit, and an interleaver configured to increase a time interval between the four bits in the set before transmitting the set of four bits on a communications channel, and

a receiver further comprising a de-interleaver configured to decrease the time interval between the set of four bits received via the communications channel, a diversity combiner configured to reduce the received set of four bits into a received set of three bits, and a single 1/3-rate turbo decoder configured to decode each received set of three bits to recover an output bit for each input bit.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Drawings

2. The drawings were received on March 21, 2005. The Examiner approves these drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

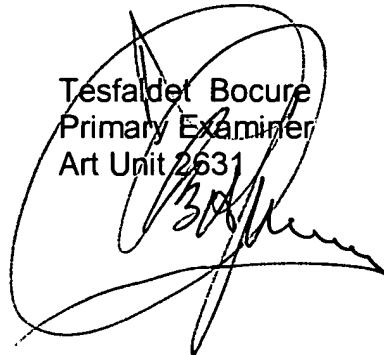
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.Bocure

Tesfaldet Bocure
Primary Examiner
Art Unit 2631



Turbo Coding Fast Fading Channels

Inventor: Zhang, et al.

Attny. Docket: MH-5088

Filed: December 12, 2001 Serial Number: 10/017,535 Figure 2 Replacement Sheet

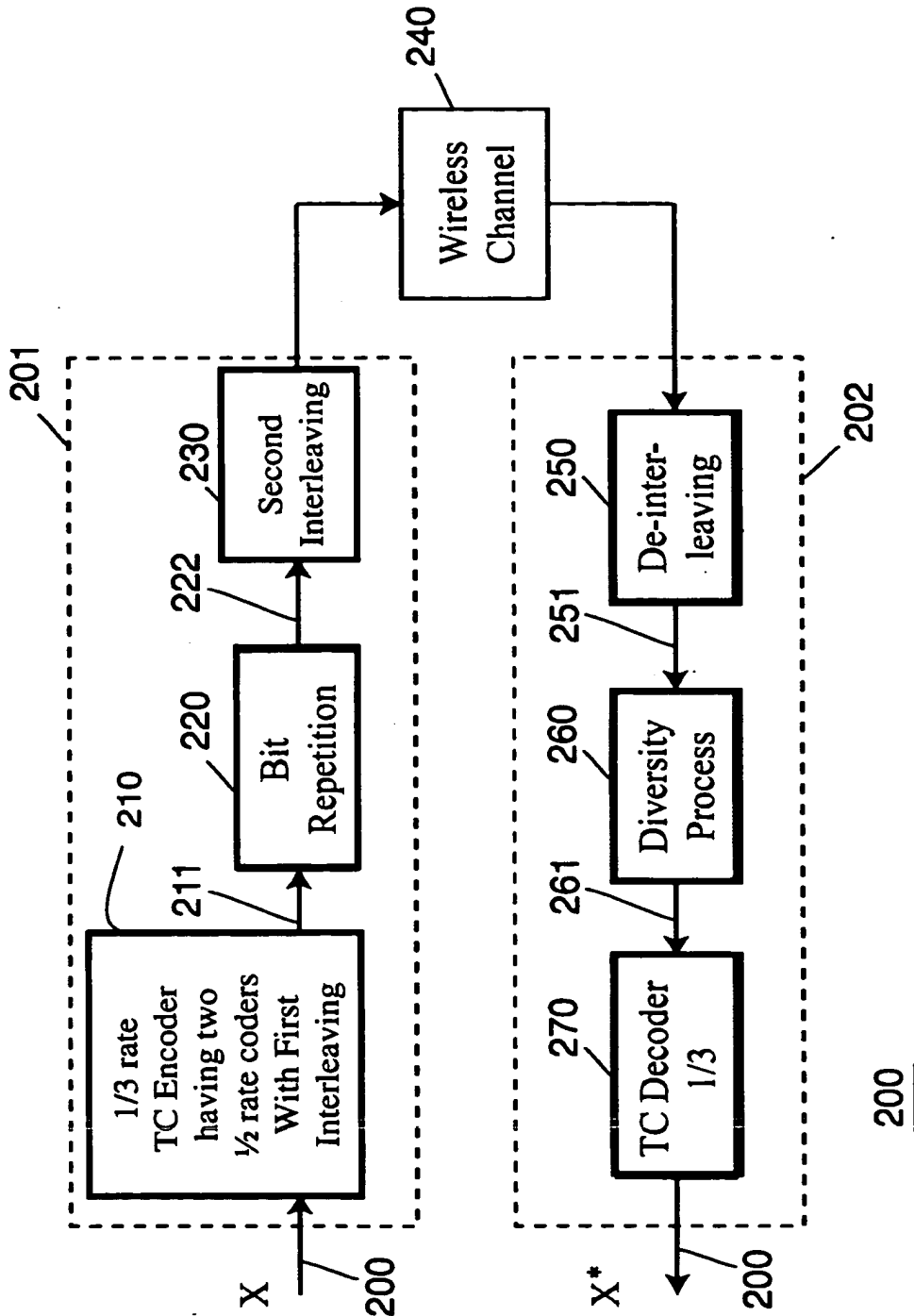


FIG. 2